

FIGURE 7

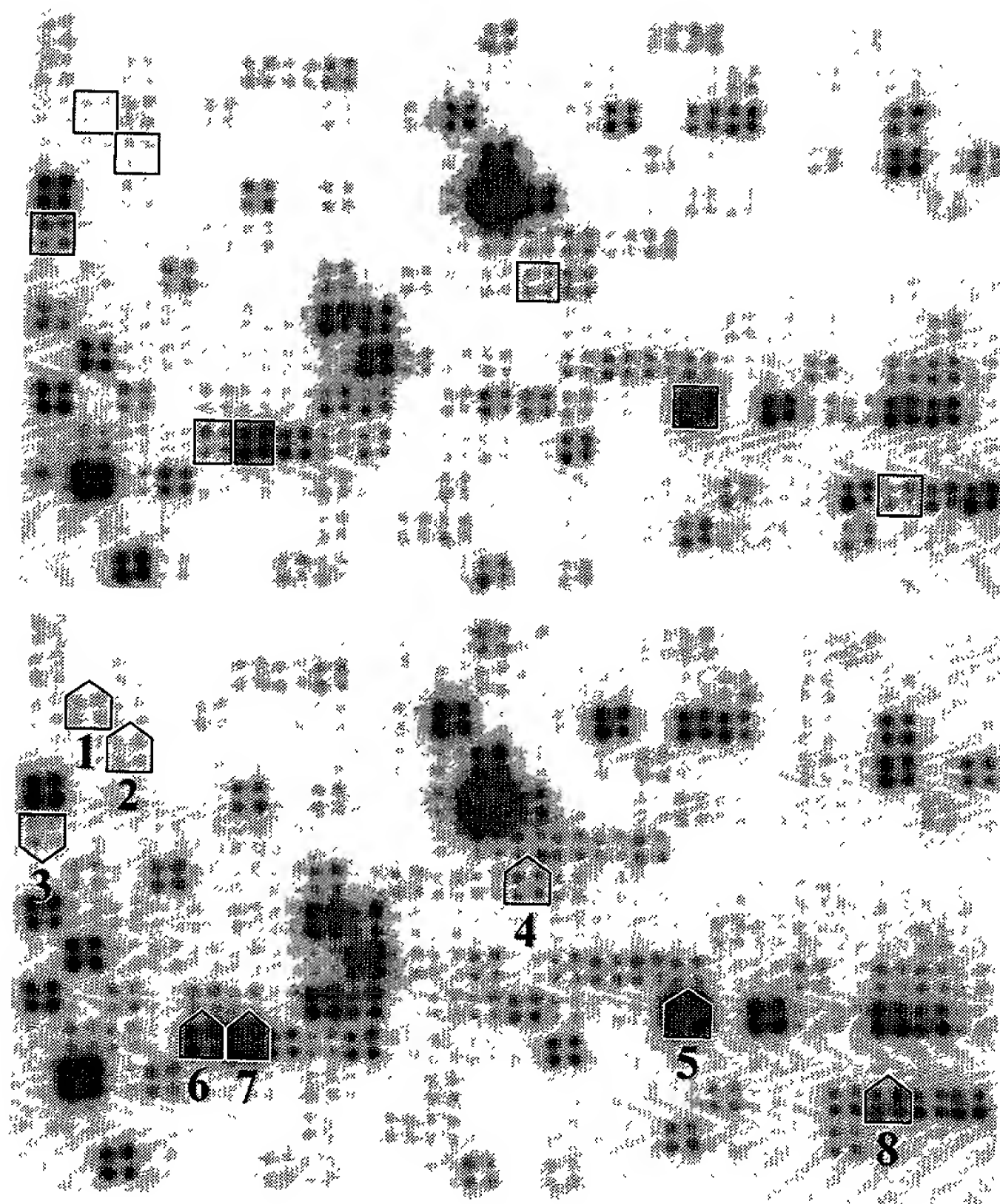


Figure 7. Detection of gene expression by high density array Southern hybridization for loblolly pine genotype 333 after 12 weeks on two maturation media. Top, 5.2 mg/L ABA; bottom 10 mg/L ABA. Arrows up indicate increased gene expression in the 10 mg ABA treatment; arrow down, expression lower in 10 mg ABA treatment. Squares in top panel mark the corresponding spots marked in the bottom panel. Gene 1 (LPS-064), expression is usually higher in ZE than in SE; 2 (LPS-092) expressed in late ZE; 3 (LPZ-049) is starch synthase, higher level in ZE; 4 (LPZ-091) LMW heat shock protein, found in late stage ZE; 5 (LPZ-202) lea gene (late embryo abundant); 6 (LPZ-215) higher level in late ZE; 7 (LPZ-216) lea gene; 8 (LPZ-270) 70S heat shock protein, found in late ZE. A lower level of #3 means a decreased synthesis of starch in 10 mg ABA treatment. All the others bring the expression closer to ZE.

FIGURE 8

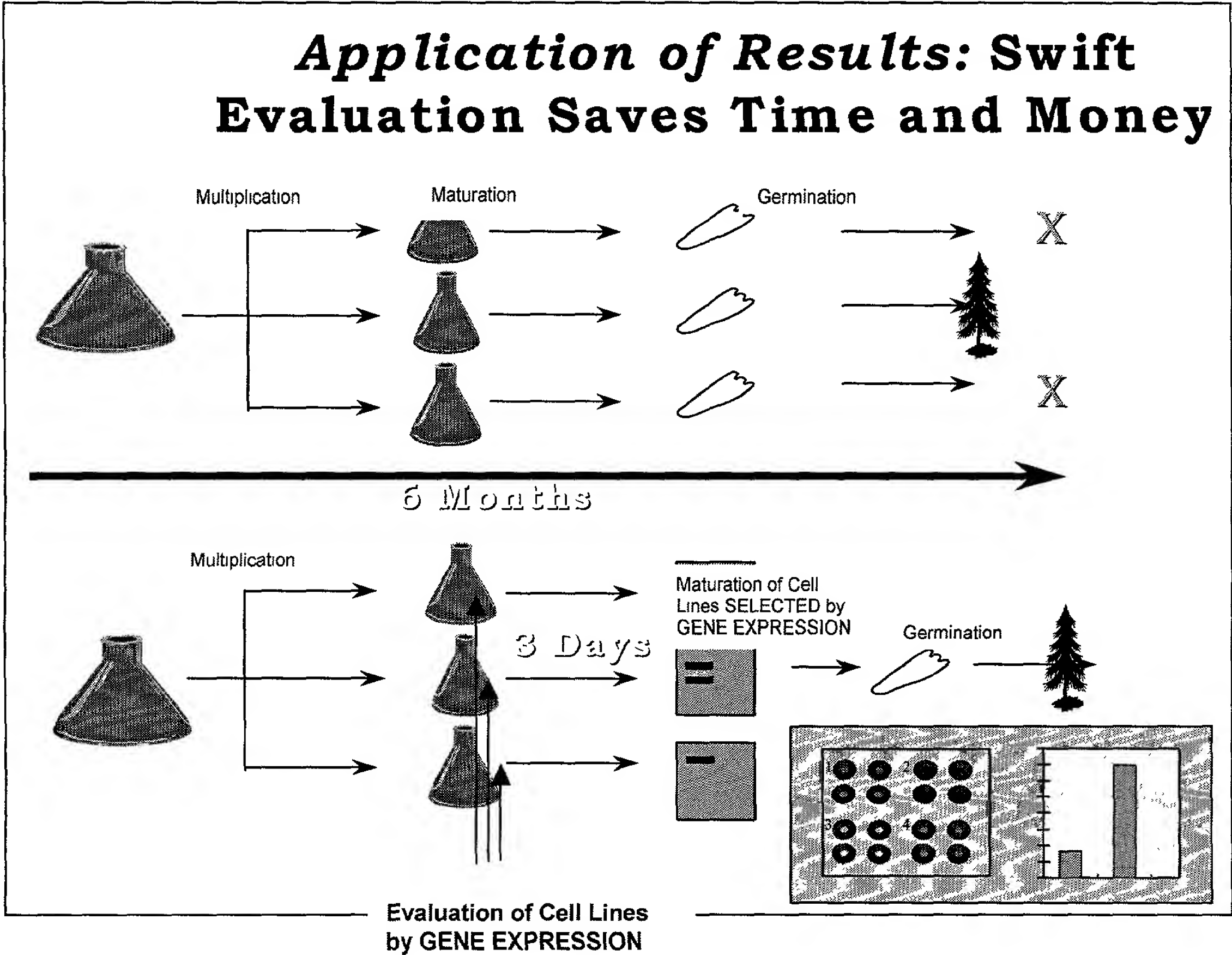
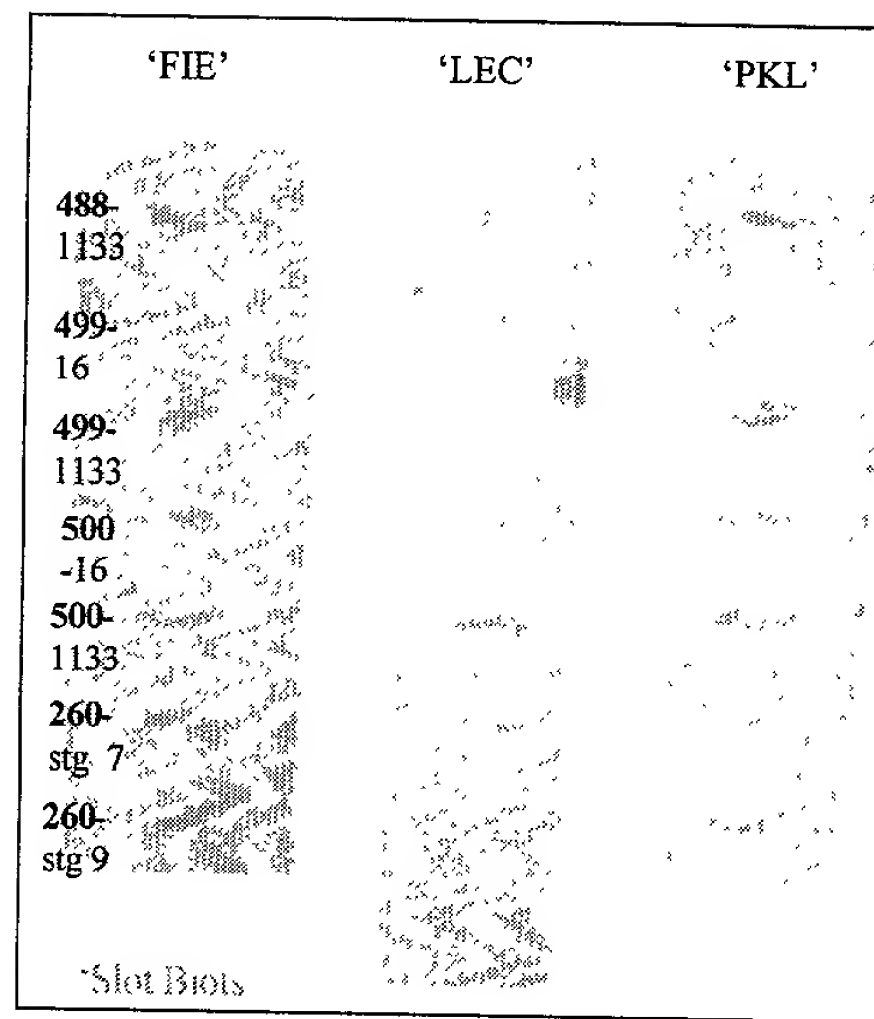


Figure 8. Application of results.

FIGURE 9

A.



B.

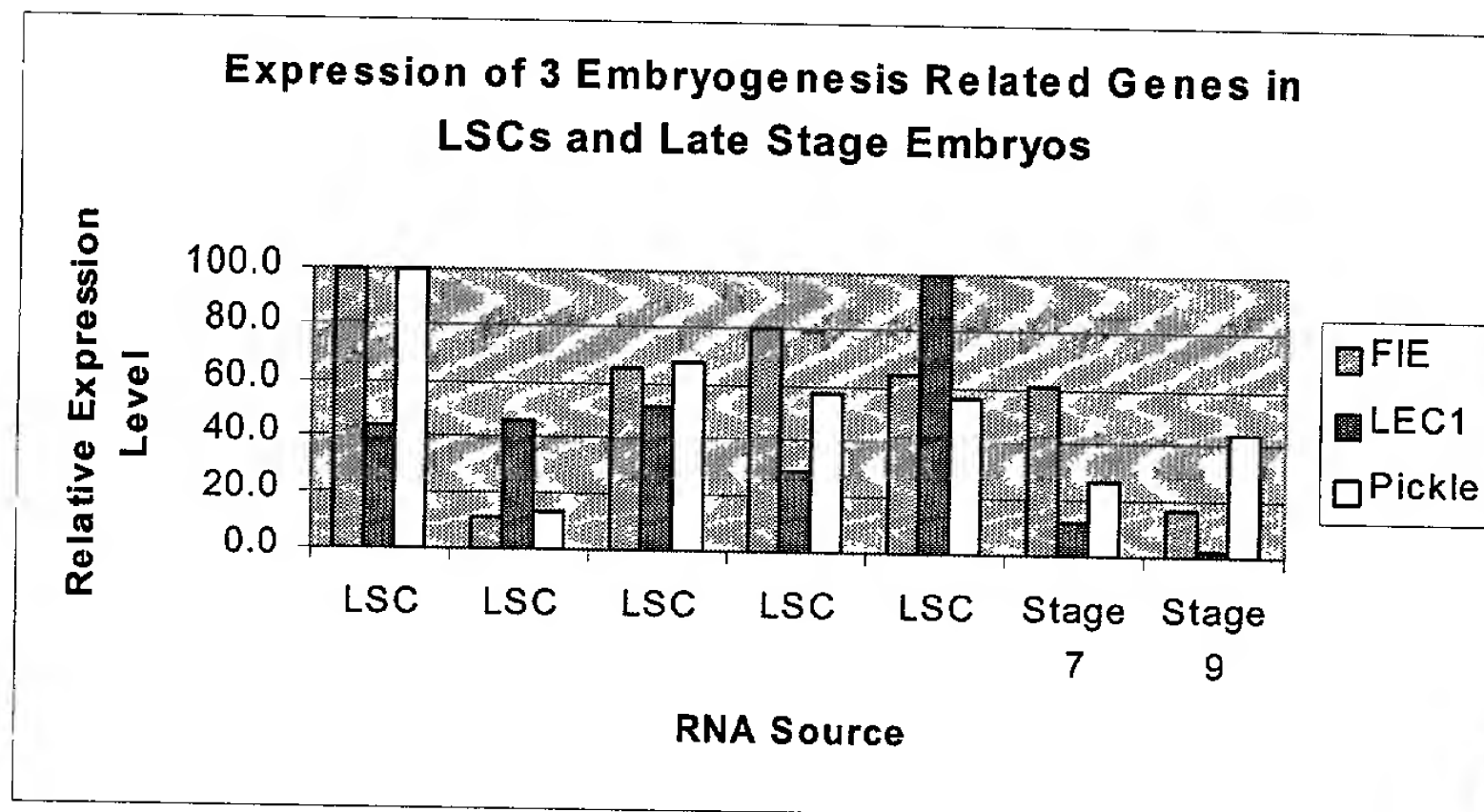


Figure 9. a. Image of RNA slot blot probed with pine cDNA clones bearing similarity to the 'fie' 'lec' or 'pkl' genes from *Arabidopsis thaliana*. Two micrograms of Loblolly Pine RNA, extracted from either liquid suspension culture (somatic embryos, stage 1 & 2) or from somatic embryos stage 7 or stage 9, were blotted using a slot blot manifold (Hoeffer Scientific Instruments, San Francisco) according to manufacturers instructions onto Hybond<sup>TM</sup> N+ (Amersham Pharmacia Biotech, Piscataway, NJ, USA) and UV crosslinked. Each of the three membranes contains identical amounts of the same RNA. The numbers in bold on the left hand side of the images refer to the genotype of the cell line, the numbers below the genotype refer to the media in which embryos were cultured. B. Quantification of the signals shown in panel 9a. Blots were exposed to a phosphorimaging plate for 10 minutes. Screens were read with a BAS1800 (software v1.0) and images were manipulated with ImageGauge (v2.54) (Fuji Photo Film Co., Ltd., Kanagawa, Japan).